

1 WHAT IS CLAIMED IS:

2 1. A bidirectional air pump assembly for inflatable objects and the
3 bidirectional air pump assembly comprising:

4 a pump mounting case having a top, a bottom, a top cavity defined in the
5 top and a valve mounting hole defined through the bottom and communicating
6 with the top cavity;

7 a valve held in the valve mounting hole and comprising

8 an adapter mounted in the valve mounting hole and comprising a
9 valve body having a top, a bottom and a valve port defined through the top and
10 the bottom of the valve body; and

11 a valve disk attached to the bottom of the valve body and
12 comprising a disk body having a top and a bottom and at least one disk stop
13 formed on and protruded from the top of the disk body; and

14 an air pump detachably mounted in the top cavity of the pump mounting
15 case and having a housing with a supply port and a discharge port that selectively
16 connect to the valve port;

17 wherein the at least one disk stop abuts the housing of the air pump at the
18 supply port to form a gap between the disk body and the bottom of the valve
19 body, and the gap keeps the disk body of the valve disk from completely closing
20 the valve port when the air pump draws air out through the valve port.

21 2. The bidirectional air pump assembly as claimed in claim 1 further
22 comprising a clamp attached to the bottom of the disk body to connect the valve
23 disk to the valve body of the adapter.

24 3. The bidirectional air pump assembly as claimed in claim 2, wherein

1 the valve body of the adapter further has multiple protrusions formed on the
2 bottom of the valve body;

3 the disk body further has multiple through holes defined through the top
4 and corresponding respectively to the protrusions and a transverse groove
5 defined in the bottom adjacent to the through holes to divide the disk body into a
6 movable portion and a stationary portion, the at least one disk stop is formed on
7 the movable portion and the clamp holds the stationary portion in place; and

8 the clamp comprises a stationary bar having a top and multiple though
9 holes defined through the top and corresponding respectively to the protrusions
10 and a transverse bar protruded from the top of the stationary and received in the
11 transverse groove;

12 wherein each of the protrusions is held in a corresponding one of the
13 through holes of the disk body and a corresponding one of the through holes of
14 the stationary bar.

15 4. The bidirectional air pump assembly as claimed in claim 3, wherein
16 the valve body of the adapter is annular.